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***** mej *****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel target for antiparasitic agents and inhibitors thereof

Inventors (please provide full names):

Earliest Priority Filing Date:

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

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Technical Information Specialist
CM1 6A01
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Set	Items	Description
31	48968	(PARASIT? OR FUNG? OR BIOCID? OR INSECT? OR BACTER?) AND (SCREEN? OR ASSAY? OR TEST?) AND (PHOSPHATE? OR PHOSPHATASE?)
31	14477	1 AND ENZYME? (S, INHIB? OR SUPPRESS?)
31	17511	S1 AND ENZYME? (S, ACTIVE? OR INHIB? OR SUPPRESS?)
31	91	S3 AND (WORM? OR PROTOZOA? OR NEMATODE? OR MITE?)
31	872	R3 unique items
31	11	S1 AND (TREHALOSE W/6 & GLYCEROL W/6 OR MANNITOL W/1 & P-ARBITOL W/6, W/1) (PHOSPHATE?)
31	11	R1 unique items
31	1-11	

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Abstract: Evaluation of a novel binding site for 1-amin-N6-substituted adenosine analogues.
 AUTHOR: Bressi, Denise J; Cole, Anthony; Hough, Nicholas J; Parker, Frederick J; Tan, Thomas Wesley D; Verlinde, Christopher L M J; Hill, William J; Hill, Michael R
 AUTHOR ADDRESS: Department of Chemistry, University of Washington, Seattle, WA, 98195; mhill@chem.washington.edu
 JOURNAL: Journal of Medicinal Chemistry 49: 4141-4151 November 17, 2006
 ISSN: 0021-9159
 MEDLINE: 17017476
 INDEX: 1-amin-N6-substituted
 JOURNAL TYPE: Article
 REFERENCE TYPE: Abstract
 LANGUAGE: English
 SUMMARY LANGUAGE: English

ABSTRACT: As part of a project aimed at structure-based design of adenosine analogues as drugs against African trypanosomiasis, N6-, 1-amino-N6-, and N6-substituted adenosine analogues were synthesized and tested to establish structure-activity relationships for inhibiting Trypanosoma brucei glycerinal phosphoglycerate kinase (PGK), glyceraldehyde-3-phosphate dehydrogenase (GAPDH), and glyceral-3-phosphate dehydrogenase (GPDH). Evaluation of X-ray structures of parasitine (PGK, GAPDH, and GPDH) complexed with their adenosyl-bearing substrates led us to generate a series of adenosine analogues which would target all three enzymes simultaneously. There was a modest preference by PGK for N6-substituted analogues bearing the 2-amino group. The best compound in this series, 1-amino-N6-(2"-p-hydroxyphenylethyl)-adenosine (46b), displayed a 23-fold improvement over adenosine with an IC50 of 131 nM. 1-(2"-p-Hydroxyphenylethyl)amino-adenosine (46c) was a weak inhibitor of T. brucei PGK with an IC50 of 500 nM. To explore the potential of an additive effect that having the N6 and N2 substitutions in one molecule might provide, the best ligands from the two series were incorporated into N6,N2-disubstituted adenosine analogues to yield N6-(2"-phenylethyl)-2-(12"-phenylethyl)amino-adenosine (69) as a 31 nM inhibitor of T. brucei PGK which is 10-fold more potent than the adenosine template. In contrast, these series gave no compounds that inhibited parasitic GAPDH or GPDH more than 10-20 when tested at 1.0 mM. A 3.0 ANG X-ray structure of a T. brucei PGK/46b complex revealed a binding mode in which the nucleoside analogue was flipped and the ribosyl moiety adopted a syn conformation as compared with the previously determined binding mode of ADP. Molecular docking experiments using QM and SAS program suites reproduced this "flipped and rotated" binding mode.

17017476

ABSTRACT Item 2 from file: 5.
 DIAGNOSTIC File: 5:BioSis Previews[P
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UNIQUE IDENTIFIER: 000001446-6
 ANOTHER NAME PURIFICATION OF GLYCOPROTEIN FROM THE 18 CYCLIC TRYPAVANTIN TR
 P. BRUCEI, MA-BRUCI
 AUTHOR: AMAN, F A; WANG, C C
 AUTHOR ADDRESS: LBNL, MEL. NUCLEAR, STANFORD UNIV, 300, WEL., STANF, CA,
 CA
 JOURNAL: J L BIOCHEM PARASITOL 21: 3-11 1996, 111-111, 1996
 FULL JOURNAL NAME: Molecular and Biochemical Parasitology
 ISSN: 0304-4017
 REFERENCE TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: The glycolytic enzymes of *in vitro* grown *Trypanosoma brucei* and *Trypanosoma brucei* were purified by three different procedures and the results compared by electron microscopy, enzyme assays and x-ray crystallography. Glycylamide gel electrophoresis, fractionation on a self-forming Percoll gradient followed by a sucrose gradient centrifugation resulted in the least enriched glycolytic preparation. Fractionation on a pre-formed Nydazene gradient gave an improved preparation. The most homogeneous preparation of intact glycolytic enzymes was obtained after centrifugation on two successive sucrose gradients. Glycolytic enzymes purified by both the Nydazene and double sucrose gradient procedures appeared larger than *in situ* glycolytic enzymes presumably due to an osmotic effect resulting from disruption of the granular matrix of the organelles. Nevertheless, there appears to be no loss of essential subunits due to the swelling of the organelles. The glycolytic enzymes of the blood stream form trypomastigotes purified by the same procedure as above, however, or that of swelling. A comparison of glycolytic enzymes purified from procyclic trypomastigotes and blood stream form trypomastigotes prepared by the same double sucrose procedure demonstrated that in the glycolytic enzymes of procyclic trypomastigotes: 1. activities of new kinases, phosphoglucose isomerase, phosphofructokinase, aldolase and phosphoglycerate kinase and diminished by 10-100; 2. activities of glyceraldehyde-3-phosphate dehydrogenase, triose phosphate isomerase and glyceral-3-phosphate dehydrogenase remain unchanged or are only slightly reduced; 3. there is an appearance of four major new proteins, among which could be phosphoenol pyruvate carboxykinase and malate dehydrogenase. These observations are in basic agreement with those by Hart et al. [Mol. Biochem. Parasitol. 12, 25-35, 1984].

1986

7/AB/3 Item 3 from file: 5:
BIALIB File: 5:Biosis Previews(R)
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198601 BIOSIS NO.: 000074019466

EXAMINATION OF MALATE DEHYDROGENASE EC-1.1.1.37 ADENYLATE KINASE
EC-2.7.4.3 AND GLYCOLYTIC ENZYMES IN GLYCOSOMES AND THE THREONINE PATHWAY
IN THE MITOCHONDRION OF CULTURED PROCYCLIC TRYPOMASTIGOTES OF
TRYPANOSOMA-BRUCI

AUTHOR: OPPENHOFFS F R; MARKOS A; STEIGER P F

AUTHOR ADDRESS: RESEARCH UNIT FOR TROPICAL DISEASES, INTERNATIONAL INST. OF
CELLULAR AND MOLECULAR PATHOLOGY, ICP, AVENUE HIPPOCRATE 74, B-1200
BRUSSELS, BELGIUM.

JOURNAL: MOL BIOCHEM PARASITOL 4 (5-6), 1981 (RECD. 1981), 201-212, 1981

Full JOURNAL NAME: Molecular and Biochemical Parasitology

TERM: MHIPL

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Procyclic culture forms of the human and cattle parasite *T. brucei* stock 427 were screened for the presence of enzymes involved in glycolysis, mitochondrial energy metabolism and threonine degradation. The enzyme activities in the procyclics were compared with those of the blood stream forms. The specific activities of glycolytic enzymes represented 20-70% of the respective levels in the blood stream form, except for hexokinase (EC 2.7.1.1) which was 25-fold reduced. In contrast to what was expected the enzymes involved in the early steps of the glycolytic pathway, i.e., triose kinase and phosphoglycerate kinase (EC 2.3.1.3) and the enzymes NAD-linked glyceral-3-phosphate

benzoylase [EC 1.1.1.1] and glycerol kinase were all present in glycolysis equilibrating at a density of 1.125 g cm³ in sucrose gradients. Malate dehydrogenase was 4-fold more active in protoplasts than in bloodstream forms. This increase in activity was the result of the appearance of malate dehydrogenase in the glycolysis of the protoplasts, in addition to mitochondrial and cell-sap activities which were present in both stages of the life cycle. Glycolysis contained part of the complete kinase activity, which was also associated with the malate dehydrogenase [EC 1.1.1.41] and en- glycerol - 3 - phosphate dehydrogenase [EC 1.1.1.41], together with 1,3-bisphosphoglycerate-sensitive ATPase [EC 3.6.1.3], were located in the mitochondrion which had a density in sucrose ranging from 1.10-1.12 g cm³. This organelle also contained L-threonine D-hydroxyase [EC 1.1.1.13] and carnitine acetyltransferase [EC 2.3.1.7]. 2 enzymes involved in threonine catabolism. The latter 2 enzymes had activities which were, respectively, 18- and 13-fold higher in the protoplast than in the bloodstream form. Mitochondrial en- glycerol - 3 - phosphate dehydrogenase was decreased 4-fold.

1981

7 AB 4 Item 4 from file: 5;
DIALOG R:file 3:BIOSIS Previews(R)
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12817966 BIOSIS NO.: 000069026084
TREHALOSE 6 PHOSPHATE SYNTHASE EC-2.4.1.15 FROM
DICTYOSTELIUM-DISCOIDEUM PARTIAL PURIFICATION AND CHARACTERIZATION OF THE
ENZYME FROM YOUNG SCROCARPS
AUTHOR: KILLICK K A
AUTHOR ADDRESS: DEP. DEV. BIOL., BOSTON BIOMED. RES. INST., BOSTON, MASS.
02114, USA.
JOURNAL: ARCH BIOCHEM BIOPHYS 196 (1), 1979, 121-133, 1979
FULL JOURNAL NAME: Archives of Biochemistry and Biophysics
CITEN: ARBIA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Trehalose 6-phosphate synthase was solubilized from young scrocarps of the cellular slime mold, *D. discoideum*, by a freeze-thaw cycle and was subsequently purified about 160-fold using streptomycin sulfate precipitation, (NH₄)₂SO₄ fractionation, DEAE-cellulose chromatography, heat treatment in the presence of heparin and molecular sieve chromatography on columns of Bio-Gel A-1.5 m. The purified enzyme was maximally active at pH 6.5, showed an absolute specificity for G-6-P as glucosyl acceptor and a relative specificity for the glucosyl donor in the order: UDP-glucose, GDP-glucose and ADP-glucose. Although heparin and chondroitin sulfate activated the synthase, the order of glucosyl donor specificity was not affected. Other activators of trehalose 6-phosphate synthase were KCl, Mg²⁺ and EDTA, while detergents had little effect. Although synthase activity was reduced 60 to 80 upon the omission of Mg²⁺ from the assay mixture, an absolute dependency for Mg²⁺ could not be demonstrated. Evaluation of the apparent K_m values for partially purified synthase preparations demonstrated that for each of the synthase substrates, the Lineweaver-Burk plots displayed complex bimodal kinetics. Estimation of the K_m after extrapolation of the straight line portions of these plots yielded values of 1.3 and 3.3 mM G-6-P and 1.5 and 2.2 mM UDP-glucose. Comparison of the latter parameters with the cellular levels of UDP-glucose and G-6-P in *Dictyostelium* suggests that if the observed bimodal kinetics are the consequence of multiple kinetically distinct forms of the synthase, the activation of

specificity of other enzyme besides the synthetase catalyzes the synthesis of tryptophan-P; greater sensitivity at low levels of product and insensitivity to competing side reactions shown in competition with the fluorescent assay. *Encl.*, polyacrylamide gel electrophoresis analysis of synthesis of polypeptides in whole cells and purified.

10

7/AB:9 (Item 1 from file: 98)
 CIALOGS.R File: 98:General Sci Abs/Full-Text
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401125 H.W. WILSON RECORD NUMBER: BGS19901125
 Channeling of substrates and intermediates in enzyme-catalyzed reactions.
 Hansen, Håvard M; Paulsen, Frank M
 Annual Review of Biochemistry v. 61 no. 1 p. 147-77
 JOURNAL FEATURES: p147-177 ISSN: 0090-4074
 LANGUAGE: English
 COUNTRY OF PUBLICATION: United States
 YEAR: 1992

ABSTRACT: The three-dimensional structures of tryptophan synthase, carbamoyl phosphate synthetase, glutamine phosphoribosylpyrophosphate amidotransferase, and asparagine synthetase have revealed the relative locations of multiple active sites within these proteins. In all of these polyfunctional enzymes, a product formed from the catalytic reaction at one active site is a substrate for an enzymatic reaction at a distal active site. Reaction intermediates are translocated from one active site to the next through the participation of an intermolecular tunnel. The tunnel in tryptophan synthase is 150 Å in length, whereas the tunnel in carbamoyl phosphate synthetase is nearly 100 Å long. Kinetic studies have demonstrated that the individual reactions are coordinated through allosteric coupling of one active site with another. The participation of these molecular tunnels is thought to protect reaction intermediates from coming in contact with the external medium. Reprinted by permission of the publisher.

7/AB:9 (Item 2 from file: 98)
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401126 H.W. WILSON RECORD NUMBER: BGS19901126
 Experimental evolution and its role in evolutionary physiology.
 Bennett, Albert F
 Lenski, Richard E
 American Zoologist (Am Zool) v. 39 no. 1 (Apr. 1999) p. 246-62
 JOURNAL FEATURES: p124-162 ISSN: 0003-8182
 LANGUAGE: English
 COUNTRY OF PUBLICATION: United States
 YEAR: 1999

ABSTRACT: Four general approaches to the study of evolutionary physiology--phylogenetically-based comparisons, genetic analyses and manipulations, phenotypic plasticity and manipulation, and selection experiments--are outlined and discussed. We provide an example of the latter, the application of laboratory selection experiments to the study of a general issue in environmental adaptation, differences in adaptive patterns of generalists and specialists. A clone of the bacterium *Escherichia coli* that evolved in a constant environment of 30°C over 200 generations was replicated

and the plants were allowed to reproduce for 1 yr. Measurements in a variable thermal environment alternating between 10 and 15 degrees C. As predicted by theory, biomass and efficiency of the plants were increased in this new environment, as was stress resistance. Efficiency of photosynthesis, biomass, biomass and efficiency in the constant thermal environment of 10 degrees C. were also increased, and the thermal time to maturity was significantly increased. Several experiments are being planned to evaluate the role of photosynthesis and respiration as at the level of the individual plant. Reprinted by permission of the publisher.

ABSTRACT Item 1 from file: 149
 MAGAZINE FILE 149:103 Health/Wellness 18 CM
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Abstract SUPPLIER NUMBER: 9471761 USE FORMAT: 18 CM 18 CM 18 CM
 Changes in membrane polar lipid fatty acids of seashore paspalum in response to low temperature exposure. Turfgrass Science 1 April, 1981; Lowell, G.L.; Duncan, S.K.; Baird, W.W.
 Turf Science, 41, 4, 1981, 21
 N.Y.-100,

PUBLICATION FORMAT: Magazine Journal; Periodical ISSN: 011-1-XX
 LANGUAGE: English RECORD TYPE: Fulltext; Abstract JABET ABSTRACT:
 Academic; Trade
 WORD COUNT: 6317 LINE COUNT: 10600

AUTHOR ABSTRACT: Seashore paspalum (*Paspalum vaginatum* Sw.) is a warm-season turfgrass, best known for its superior salt tolerance. Plants are subject to injury during winter conditions along the northern boundary of their zone of adaptation. New cultivars that are more tolerant to low temperatures are needed for use in the transition zone. Cold tolerance has been correlated with the degree of unsaturation in membrane lipid fatty acids. Unsaturated fatty acids are thought to aid in maintaining membranes in a fluid state necessary for biological functioning (homeostasis adaptation). The primary objective was to characterize fatty acid composition of membrane lipids in three genotypes differing in cold tolerance. A second objective was to investigate changes in fatty acid content in these genotypes during exposure to low temperatures. Cold-treated plants were exposed to a 12-h photoperiod at 5 degrees/14 degrees C day/night temperatures and light intensity of 250 micromol m⁻² s⁻¹ photosynthetic photon flux density for 6 wk. Rhizomes and crowns were harvested at 7-d intervals. Total lipids were extracted and the polar lipids separated by thin-layer chromatography. Fatty acids were identified by gas chromatography-mass spectrometry. In all three genotypes, the two saturated fatty acids, palmitic acid and stearic acid, did not change during cold treatment. In the unsaturated linolenic acid increased significantly during low temperature exposure. The magnitude of change was greater in the most-tolerant and more cold-tolerant PI 31411-1 'Seaside' than in the intermediate cold-tolerant 'Adalaid' or in the cold-susceptible, coarse-textured PI 33242. These findings suggest that accumulation of linolenic acid partly explains the differential response in their cold tolerance.

ABSTRACT Item 1 from file: 351
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Abstract
 MAGAZINE FILE 351:Lawrent WFI

Figure 1 consists of two scatter plots. The left plot shows a positive correlation between the number of children and the number of mothers, with a regression line. The right plot shows a negative correlation between the number of children and the number of mothers, with a regression line.

[illegible]

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in YEA medium for 24 h at 28 °C. The cell concentration was adjusted to 1.0 × 10⁸ cells/ml. The cell suspension was mixed with the plant tissue and incubated for 24 h at 28 °C. The plant tissue was then cultured on the selective medium. The transformation efficiency was determined as the number of transformants per 100 mg of plant tissue. The data are the mean ± SD of three independent experiments.

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

[illegible][illegible]

Figure 1: Schematic representation of the experimental design. The figure is divided into two main sections: 'Pretest' and 'Main Experiment'. The 'Pretest' section includes a 'Pretest' box with a 'Pretest' label and a 'Pretest' box with a 'Pretest' label. The 'Main Experiment' section includes a 'Main Experiment' box with a 'Main Experiment' label and a 'Main Experiment' box with a 'Main Experiment' label.

^a χ^2 = 1.03, df = 1, p = .31.
^b χ^2 = 1.03, df = 1, p = .31.

[illegible][illegible][illegible]
$$0 \rightarrow \Omega^1(\mathbb{A}^n) \xrightarrow{\pi_1} \Omega^1(\mathbb{A}^m) \oplus \Omega^1(\mathbb{A}^{n-m}) \xrightarrow{\pi_2} \Omega^2(\mathbb{A}^m) \oplus \Omega^2(\mathbb{A}^{n-m}) \rightarrow \dots$$

(b) separating at least 1 compound which reduces activity, as the sample compared with the same medium without the inhibitor; and

[illegible][illegible]

INDEPENDENT CHARTERED ACCOUNTANTS

[illegible][illegible][illegible]

4. A meeting of the Executive Committee of the Board of Directors of the Corporation was held on the 11th day of December, 1963, at which time the following resolution was adopted:

4. A kernel of reducing or impairing the participatory of a mammalian parasite by promoting hyper-involution of a sexual individual. (A similar kernel is found in plants.)

ACTIVITY - Anticipation; Participation; Performance; Problem Solving

$$E_{\text{eff}} = E_0 + \frac{\alpha}{2} \left(\frac{1}{\beta_1} - \frac{1}{\beta_2} \right) = E_0 + \frac{\alpha}{2} \left(\frac{1}{\beta_1} - \frac{1}{\beta_2} \right)$$

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FILE COVERS 1907 - 17 Jan 2003 VOL 13-13.4
 FILE LAST UPDATED: 16 Jan 2003 (20031114)

This file contains CAS Registry Number, easy and accurate substance identification.

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L2      195 SEA FILE=REGISTRY GLYCE-1-PHOSPHATE?/CN
L3      23 SEA FILE=REGISTRY MANNIT-1-PHOSPHATE?/CN
L4      1 SEA FILE=REGISTRY SOREBIT-1-PHOSPHATE?/CN
L6      1 SEA FILE=REGISTRY ERYTHRE-1-PHOSPHATE?/CN
L7      1 SEA FILE=REGISTRY SUGAR-1-PHOSPHATE?/CN
L8      325 SEA FILE=HCAPLUS L1 OR L2 OR L3 OR L4 OR L6 OR L7
L9      5865 SEA FILE=HCAPLUS L1 OR L2 OR L3 OR L4 OR L6 OR L7
L10     231 SEA FILE=HCAPLUS L3 OR L4 OR L6 OR L7
L11     115 SEA FILE=HCAPLUS L4 OR L6 OR L7
L12     1 SEA FILE=HCAPLUS ARABIN-1-PHOSPHATE?
L13     98 SEA FILE=HCAPLUS ERYTHRE-1-PHOSPHATE? OR L6
L14     3083 SEA FILE=HCAPLUS L7 OR L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR L14
L15     69967 SEA FILE=HCAPLUS (?PARASITE? OR FUNG? OR BIOCID? OR ?INSECT?)
AND (SCREEN? OR ASSAY? OR ?)
L16     10036 SEA FILE=HCAPLUS PHOSPHATE(W) PHOSPHATASE? OR SUGAR(W) PHOSPHATAS
E? OR L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR L14
L17     71 SEA FILE=HCAPLUS L15 AND L16
L18     52 SEA FILE=HCAPLUS L17 AND L18
L19     15 SEA FILE=HCAPLUS L18 AND L19 OR BACTER? OR PROTOZOA? OR
NEMATODE? OR MITE?
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=> d bib abs nitrr 119 1-15

L19 ANSWER 1 OF 15 HCAPLUS COPYRIGHT © 2003 CAS
 ACCESSION NUMBER: 2002:695794
 DOCUMENT NUMBER: 137:226941
 TITLE: Use of certain compounds for treatment of a number of conditions in blood cell deficiencies
 INVENTOR(S): Anlem, Clarence L.; Beading, Christopher; Frincke, James; Stikney, John; Lardy, Henry; Marwah, Padma; Marwah, Ashok; Thompson, Patrick T.
 PATENT ASSIGNEE(S): Hollis-Eden Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl. No. 98/000001
 COCEN: PIXXEL
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	LOCATION NO.	DATE
WO 2002109977	A1	20021911	01-US6716	20020321
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, EE, ES, FI, GB, GR, GU, HK, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NO, NI, NL, OM, OS, PA, PE, PG, PH, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW		AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, EE, ES, FI, GB, GR, GU, HK, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NO, NI, NL, OM, OS, PA, PE, PG, PH, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW	
RW:	GH, GM, KE, LS, MW, MT, MU, NA, NG, NY, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW		GH, GM, KE, LS, MW, MT, MU, NA, NG, NY, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW	
	BE, BJ, CF, CG, CI, CM, CU, CY, CZ, DE, DK, DM, DO, EE, ES, FI, GB, GR, GU, HK, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NO, NI, NL, OM, OS, PA, PE, PG, PH, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW		BE, BJ, CF, CG, CI, CM, CU, CY, CZ, DE, DK, DM, DO, EE, ES, FI, GB, GR, GU, HK, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NO, NI, NL, OM, OS, PA, PE, PG, PH, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SN, SR, SV, TC, TH, TJ, TM, TR, TT, UA, US, VE, VN, YU, ZA, ZM, ZW	

PRIORITY APPLN. INFO.:
 1-272624P F 20010801
 1-120483 F 20010812
 1-323016P F 20010910
 1-328738P F 20011011
 1-340054P F 20011101
 1-335015P F 20011108
 1-343523P F 20011220

OTHER SOURCE(S): MARPAT 137:227497

AB The invention relates to the use of compds. to treat a no. of conditions, such as thrombocytopenia, neutropenia, and the delayed effects of radiation therapy. Compds. that can be used in the invention include methyl-2,3,4-trihydroxy-1-O-(7,17-dimethylandrosta-5-ene-3.beta.-yl)-.beta.-D-glucopyranosidronate. Formulations with the steroids are also exemplified.

IT 9075-65-4, Glycerophosphate dehydrogenase
 RL: BSU (Biological study, unclassified); B10L (Biological study) (steroid hormone induction of synthesis of mitochondrial G6PDH and cytosolic malic enzyme in rat liver; synthetic prepn. and use of certain steroids for treatment of a no. of conditions including blood cell deficiencies)

REFERENCE COUNT: 13 THERE ARE 13 REFERENCES AVAILABLE FOR THIS RECORD. 13 REFERENCES AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 1998 ACS

ACCESSION NUMBER: 2002:89878 HCAPLUS

DOCUMENT NUMBER: 136:156403

TITLE: Methods for identifying therapeutic targets for treating infectious disease

INVENTOR(S): Shepard, Michael J.; Lackey, David B.; Cathers, Brian E.; Sergeeva, Irina V.

PATENT ASSIGNEE(S): Newbiotics, Inc.

SOURCE: PCT Int. Appl. No. 98/000001

COCEN: PIXXEL

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	LOCATION NO.	DATE
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WO 2002007561 A2 20020101 01-US200198 20010721

W: AE, AG, AL, AM, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

PRIORITY APPLN. INFO.:

1-219888P F 2 110316
1-244988P F 2 110316
1-276728P F 2 110316

AB This invention provides methods and systems to identify **enzymes** that act as **enzyme**-catalysed therapeutic activators and the **enzymes** identified by these methods. The invention is provided by this invention are compds. activated by **enzymes** as well as compds. contg. these compds.

IT 37250-69-4

RL: BSU (Biological study, unclassified); CAT (Catalyst use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identifying intrinsic **enzyme**-catalysed therapeutic activators as targets for treating infectious disease)

IT 9025-72-3, E.C. 3.1.3.12

RL: CAT (Catalyst use); PKP (Proprietary); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identifying intrinsic **enzyme**-catalysed therapeutic activators as targets for treating infectious disease)

L19 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 1995 ACS

ACCESSION NUMBER: 2001:865255 HCAPLUS

DOCUMENT NUMBER: 136:34648

TITLE: Genes, **enzymes**, related intermediates, and methods for analyzing the mevalonate-independent isoprenoid biosynthesis pathway

INVENTOR(S): Adam, Petra; Aebi, Axelbert; Eisenreich, Wolfgang; Fellermeier, Michael; Hecht, Stefan; Fohdich, Felix; Schuhr, Christian; Wungsintaweeikul, Juraithip; Jenk, Meinhard H.

PATENT ASSIGNEE(S): Germany

SOURCE: Ger. Offen., 1-pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10027821	A1	20011106	10027821-10027821	20000608
WO 2001094561	A2	20011113	2001-EP6255	20010601
WO 2001094561	A3	20020831		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BF, BY, BE, CA, CH, CN, CR, CO, CZ, DE, DK, DM, EE, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

CH, CK, ES, FI, FR, GB, GR, GU, HA, HE, HI, IL, IN, IS, IT, JP, KE, KR, KZ, LC, LG, LI, LT, LU, MA, MD, MG, MI, MT, MU, MV, MW, MX, MY, NZ, OC, OD, OE, OF, OG, OH, OI, OM, ON, OP, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TP, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

PRIORITY APPLN. INFO.:

AB The present invention concerns **enzymes** and intermediates in the mevalonate-independent isoprenoid biosynthesis pathway downstream from 2C-methyl-3-erythritol-2,4-diphosphate and upstream from isopentenylpyrophosphate or dimethylallylpyrophosphate. These are used for **screening** for inhibitors of the **enzymes** and for identification of inhibitor-resistant variants. Further disclosures concern genes coding for the **enzymes**, vector constructs containing the genes, cells which contain the vectors, and plants containing such vectors. Thus, the *Bacillus subtilis* and *Escherichia coli* genes for the mevalonate-independent isoprenoid biosynthesis pathway were cloned and expressed. The DXP synthase and DXP reductase **enzymes** were used to prep. (U-13C)-2C-methyl-2-erythritol-4-phosphate. The gene *ygiE* 1-deoxy-D-xylulose-5-phosphate synthase, gene *yacM* 1-deoxy-D-xylulose-5-phosphate reductoisomerase, and gene *ygbP* 4-diphosphocytidyl-2C-methyl-2-erythritol synthase were used in prepn. of (2,2-13C)-4-diphosphocytidyl-2C-methyl-2-erythritol. Genes downstream of *ygbP*, i.e., *gdpE*, *lytB*, *yjeE*, and *yjeF* were cloned for use in **screening** for inhibitors of isoprenoid synthesis or for prepn. intermediates in the pathway.

L19 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2001

ACCESSION NUMBER: 2001:816926
DOCUMENT NUMBER: 135:354706
TITLE: Structure of 4-diphosphocytidyl methylerythritol synthetase involved in mevalonate-independent isoprenoid biosynthesis and the rational design of effectors
INVENTOR(S): Noel, Joseph L.; Hansen, Marianne E.; Richard, Stephane
PATENT ASSIGNEE(S): The Salk Institute for Biological Studies, USA
SOURCE: PCT Int. Appl., 2001.
CODEN: PIMXD
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WC 2001083769	A2	20011108	2001-US14371	20010503
WC 2001083769	A3	20020829		
W:	AE, AG, AL, AM, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DR, ES, FI, GB, GD, GE, GH, GM, GR, GU, HA, HE, HI, IL, IN, IS, IT, JP, KE, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MH, MI, MJ, MK, MN, MO, MP, MQ, MR, MU, MV, MW, MX, MY, NZ, OC, OD, OE, OF, OG, OH, OI, OM, ON, OP, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.			
RW:	GH, GM, KE, LS, MW, MZ, SA, SD, SE, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.			

PRIORITY APPLN. INFO.:

AB The present invention provides the structure of the **enzyme** 4-diphosphocytidyl-2C-methylerythritol synthase, a member of the pyridyltransferase family of **enzymes**. 4-ME is a crit.

intermediate in the mevalonate-independent pathway for isoprenoid biosynthesis in a no. of prokaryotic organisms, in algae, in the plastids of plants, and in the malaria parasite. In vertebrates, these vertebrates synthesize isoprenoid precursors via the mevalonate pathway, HMG-ME synthase and other **enzymes** of the mevalonate-independent pathway for isoprenoid prodn. represent suitable targets for the structure-based design of selective antibacterial, antifungal, and antimalarial drugs. Accordingly, the present invention provides methods for **screening** for compds. that inhibit **enzymes** of the mevalonate-independent pathway and pharmaceutical compns. and antibacterial formulations thereof. Further provided are methods of treatment of the **enzymes** of the pathway and **bacterial** terpeneoid synthase and methods for treating a subject suffering from a **bacterial** infection.

L19 ANSWER 6 OF 18 HCAPLUS COPYRIGHTED BY

ACCESSION NUMBER: 2001:168177 AND

DOCUMENT NUMBER: 134:217175

TITLE: Sugar alcohol phosphatases or sugar phosphatases as targets for antiparasitic drugs and use of the inhibitors in biocides and pharmaceuticals

INVENTOR(S): Thevelein, Joana; De Plick, Patrick

PATENT ASSIGNEE(S): K.U. Leuven Pharmaceutical Development, Belg.

SOURCE: PCT Int. Appl., Group.

CODEN: PIXX02

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016357	A2	20010308	99-0100-EP8410	20000829
WO 2001016357	A3	20011129		
W:	AE, AG, AL, AM, AT, AU, A, B, BE, BG, BR, BY, BE, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, ES, FI, GB, GD, GE, GH, GM, HR, HU, IE, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MR, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KP, KR, KZ, LT, LU, NL, SE, MO, PT, IE, SI, LT, LV, FI, RO, MN			
FW:	GH, GM, KE, LS, MW, MZ, SI, SD, SE, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, HU, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, HT, HR, NE, SN, TD, TG			
EP 1081232	A1	20010308	99-0100-202805	19990830
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, HU, IT, LI, LU, NL, SE, MO, PT, IE, SI, LT, LV, FI, RO			
EP 1206568	A2	20020822	99-0100-964054	20000829
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, HU, IT, LI, LU, NL, SE, MO, PT, IE, SI, LT, LV, FI, RO, MN			

PRIORITY APPLN. INFO.: 99-0100-202805 A 19990830

99-0100-964054 A 20000829

99-0100-EP8410 W 20000829

AB The use of an **enzyme** found in fungi, bacteria, insects, nematodes, worms, mites, protozoa etc. as a target in a **screening assay** is described by means of which a compound capable of inhibiting the function of that **enzyme** may be identified. The **screening assay** may include complete or purified-**enzyme assays**. In particular, the present invention

relates to a screening assay for inhibitors or suppressors of sugar alc. phosphatases, and more in particular, inhibitors or suppressors of trehalose-6-phosphate phosphatase, as well as preps., in particular, pharmaceutical preps., which include inhibitors or suppressors obtained from the screening assay. Inhibitors are described for applications in biocides and antifungal pharmaceuticals.

IT 9023-07-8, Sugar phosphatase 9025-72-3

, Trehalose-6-phosphate phosphatase

9055-29-2, Mannitol-1-phosphatase 37228-75-4,

Glycerol-3-phosphatase

EL: BAC (Biological activity or effect, except adverse); BPR (Biological process); BS (Biological study, not related); BIL (Biological study); PROC (Process)

Inhibitors; sugar alc. phosphatases; sugar phosphatases as novel targets; antiparasitic agents and use of inhibitors; biocides and pharmaceuticals

LIP ANSWER 6 OF 18 HDAPLUS COPYRIGHT 1997

ACCESSION NUMBER: 2000:742235

DOCUMENT NUMBER: 133:291962

TITLE: Modification of lipid biosynthesis by DNA shuffling

INVENTOR(S): Yuan, Ling; Piller, G.; Sun, Ai; Lassner, Michael

PATENT ASSIGNEE(S): Maxygen, Inc.,

SOURCE: PCT Int. Appl.,

CODEN: PIXXD

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061740	A1	20001019	US 2000-089285	20000406

W: AE, AL, AM, AT, AU, A2, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, FO, FR, GE, GR, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LA, LB, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OC, OL, OM, OS, OT, PA, PE, PG, PH, PI, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,

AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, SD, SI, SN, TG, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, HU, IE, IL, IT, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, HK, HN, HR, IS, JP, KE, KN, KR, KZ, LA, LB, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OC, OL, OM, OS, OT, PA, PE, PG, PH, PI, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,

PRIORITY APPLN. INFO.: 09/04/99-118707P P 19990410

AB Methods of modulating lipid production in cells and whole organisms by DNA shuffling are provided. Single genes, operons, lipid biosynthetic cycles and whole genomes can be recombined to produce cells and organisms with desirable lipid synthetic or metabolic activity. Libraries of recombined lipid synthetic nucleic acids and operons are also provided. Modification of lipid satn., fatty acid compn., fatty alc. compn., wax compn., acyl chain length, location of fatty acid accumulation, triglyceride yield, substrate specificity, expression level, are described. A decrease in susceptibility to protease cleavage, high or low pH levels, extreme temps., are also described. A decrease in toxicity, and modification of methyltransferase activity resulting in formation of branched chain, cyclopropyl, methyl branched fatty acids, are also described. Use of two-hybrid system for detecting the changes in lipid biosynthetic activity is also described. Screening of libraries,

such as phage display library is well known. Crop plants such as corn, peanut, barley, millet, rice, soybean, sorghum, wheat, oats, sunflower, or nut waste lipid biosynthetic pathways and genes are claimed. DNA shuffling is a powerful process for generating diversity, which generates diversity by recombination, creating new mutations from individual genes.

REFERENCE COUNT: 12 THERE ARE 12 REFERENCES AVAILABLE FOR THIS RECORD. 12 REFERENCES AVAILABLE IN THE RE FORMAT

119 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 1993

ACCESSION NUMBER: 133:218331

DOCUMENT NUMBER: 133:218337

TITLE: The non-mevalonate isoprenoid biosynthesis of plants as a **test** system for new herbicides and drugs against pathogenic **bacteria** and the malaria **parasite**

AUTHOR S : Lichtenthaler, Hans W.; Beidler, Johannes;

Schwender, Johann; Christian, Christian

CORPORATE SOURCE: Botanisches Institut III, Universität Karlsruhe, Karlsruhe, 7-6900, Germany

SOURCE: Zeitschrift für Naturforschung, C: Journal of Biosciences, Vol. 48, No. 6, 308-313

CODEN: ZNCBDA; ISSN: 0368-5075

PUBLISHER: Verlag der Zeitschrift für Naturforschung

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Higher plants and several photosynthetic algae contain the plastidic 1-deoxy-D-xylulose 5-phosphate 4-C-methyl-2-E-erythritol 4-phosphate pathway (DOXP/MEP pathway) for isoprenoid biosynthesis. The first four **enzymes** and their genes are known of this novel pathway. All of the **enzymes** of this isoprenoid pathway are potential targets for new classes of herbicides. Since the DOXP/MEP pathway also occurs in several pathogenic **bacteria**, such as *Mycobacterium tuberculosis*, and in the malaria **parasite** *Plasmodium falciparum*, the inhibitors and potential herbicides of the DOXP/MEP pathway in plants are also potential drugs against pathogenic **bacteria** and the malaria **parasite**. Plants with their easily handled ME/MEP-pathway are thus very suitable **test**-systems also for new drugs against pathogenic **bacteria** and the malaria **parasite**. In particular security measures are required. Recently, the antibiotic herbicide fosmidomycin specifically inhibited not only the DOXP reductoisomerase in plants, but also that in **bacteria** and the **parasite** *P. falciparum*, and cures malaria-infected mice. This is the first successful application of a herbicide of the novel isoprenoid pathway as a possible drug against malaria.

REFERENCE COUNT: 40 THERE ARE 40 REFERENCES AVAILABLE FOR THIS RECORD. 40 REFERENCES AVAILABLE IN THE RE FORMAT

119 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 1993

ACCESSION NUMBER: 2000:6150 HVAL

DOCUMENT NUMBER: 132:307079

TITLE: Characterisation of the B2 gene located between the class II region and the B1 genes in the human MHC

AUTHOR S : Aguado, E.; Lopez, J. P. L.

CORPORATE SOURCE: MRC Immunology Unit, Oxford University, Oxford, OX1 3QU, UK

SOURCE: HLA: Genetic, Biology of HLA Functional and Medical Implication, 14th Congress of the International

Histochemistry and Immunology and Immunology, 11th, Saint-Malo and France, 1997-1998, Meeting Date 1997, Volume 1, Issue 1, Publisher: Chapman, Dominique, 11th, 11th and International Publisher: Chapman, Dominique, 11th, 11th and International
CODEN: JHIMPA

DOCUMENT TYPE: Conference
LANGUAGE: English

AB The novel gene G15 encodes a 315 amino acid protein with a predicted mol. wt. of about 32 kDa which contains a single transmembrane segment. The G15 gene is a single copy gene, found in cell lines U937, Molt4 and Raji cells. The protein shows homol. with the **enzyme** IFAAT

11-acyl-sn-glycerol-3-phosphate

acyltransferase lysophosphatidyl transferase from several **bacteria**. The authors expressed G15 in insect cells

using the baculovirus system and used it to demonstrate by enzymic **assays** whether G15 is the human IFAAT and to identify the cellular localization of the **enzyme**.

REFERENCE COUNT: 10 THERE ARE 10 REFERENCES AVAILABLE FOR THIS RECORD. 10 REFERENCES AVAILABLE IN THE SE FORMAT

L19 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 1999

ACCESSION NUMBER: 1999:755261

DOCUMENT NUMBER: 132:148581

TITLE: Determination of **trehalose-6-phosphate** levels in *Saccharomyces cerevisiae*, using *Bacillus pasteurii* phosphotrehalase

AUTHOR(S): Van Vaeck, C.; Van, M.; Bonini, B.; Van Dijck, P.; Therelele, J. M.

CORPORATE SOURCE: Laboratory of Molecular Cell Biology, Institute of Botany and Microbiology, Louvain, Belg.

SOURCE: Mededelingen - Universiteit Landbouwkundige en Toegepaste Biologische Wetenschappen (Universiteit Gent) (1999), 64(5b), 647-651

CODEN: MFLBER; ISSN: 0033-7503

PUBLISHER: Universiteit Gent, Universiteit Landbouwkundige en Toegepaste Biologische Wetenschappen

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The disaccharide trehalose is a major component of stress resistance in several organisms. It was found in **bacteria**, yeast, **fungi** and in certain invertebrate animal species. Deletion of the 1st **enzyme** of trehalose synthesis, TPS1, in yeasts results in a pleiotropic phenotype including absence of trehalose, deficiency in growth on rapidly fermentable sugar and loss of stress resistance. To study the changes of **trehalose-6-phosphate** (Tre6P), the precursor of trehalase, in wild type cells and in yeast cells transformed with TPS1 homologs from other organisms, the authors developed a novel Tre6P **assay**. The authors' results show that complementation of a *tps1.DELTA* strain with homologs from other organisms restores growth, but not proper sugar influx into glycolysis.

REFERENCE COUNT: 5 THERE ARE 5 REFERENCES AVAILABLE FOR THIS RECORD. 5 REFERENCES AVAILABLE IN THE RE FORMAT

L19 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 1999

ACCESSION NUMBER: 1999:464032

DOCUMENT NUMBER: 131:84434

TITLE: Plant galactinol synthase

INVENTOR(S): Smirnova, N. V.; Smirnov, A. V.

PATENT ASSIGNER S : Assocox Limited, 100 Technology Court West Limited
 SOURCE: ECT Int. Agency
 TITEL: PHOSPHATASES
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY APP. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	CLASS. N.	CLASS.
NO 9983998	A1	19990719	124-06001	124-01200
W:	AL, AM, AT, AU, BA, BB, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BR, BS, BT, BU, BV, BW, BY, CA, CH, CN, CO, CR, CU, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, GU, HA, HE, HI, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LA, LB, LC, LI, LU, LV, LY, MA, MG, MK, MN, MX, MY, NA, NI, NL, NO, NZ, OM, PA, PE, PG, PH, PK, PL, PT, RO, RU, RW, SA, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, SW, SY, TD, TH, TJ, TM, TR, TT, UA, US, UZ, VC, VE, VN, YU, ZA, ZM, ZW, AA, AE, AF, AG, AI, AL, AM, AN, AO, AR, AT, AU, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BR, BS, BT, BU, BV, BW, BY, CA, CH, CI, CL, CN, CO, CR, CU, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, GU, HA, HE, HI, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LA, LB, LC, LI, LU, LV, LY, MA, MG, MK, MN, MX, MY, NA, NI, NL, NO, NZ, OM, PA, PE, PG, PH, PK, PL, PT, RO, RU, RW, SA, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, SW, SY, TD, TH, TJ, TM, TR, TT, UA, US, UZ, VC, VE, VN, YU, ZA, ZM, ZW			
CA 2316990	AA	19990719	124-06001	19981223
AN 9917782	A1	19990719	124-06001	19981223
EP 1042486	A1	20001011	124-06001	19981223
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, HA, HE, HI, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LA, LB, LC, LI, LU, LV, LY, MA, MG, MK, MN, MX, MY, NA, NI, NL, NO, NZ, OM, PA, PE, PG, PH, PK, PL, PT, RO, RU, RW, SA, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, SW, SY, TD, TH, TJ, TM, TR, TT, UA, US, UZ, VC, VE, VN, YU, ZA, ZM, ZW			
JP 2002508155	T2	20020319	124-06001	19981223
PRIORITY APPLN. INFO.:				
			124-06001	A 19971223
			124-06001	A 19980407
			124-06001	A 19981417
			124-06001	W 19981223

AB This invention presents and characterizes a plant L-galactose dehydrogenase, an **enzyme** which catalyzes the conversion of L-galactose to L-galactonolactone. The **enzyme** is NAD⁺-dependent and the catalytic conversion is an oxidn. reaction at C1. The N-terminal sequence of the mature form of L-galactose dehydrogenase from pea is provided. The invention further provides: (1) an **enzyme** from a plant, **bacteria**, **fungi**, algae or mammal) engineered to produce L-galactose dehydrogenase; (2) a L-galactose dehydrogenase gene-specific probe used to monitor gene presence; (3) a diagnostic **test**, **assay** or monitoring method using the L-galactose dehydrogenase polypeptide; (4) a multi-**enzyme** pathway or method of producing L-ascorbic acid, wherein one step is catalyzed by L-galactose dehydrogenase; (5) a dietary supplement comprising ascorbic acid from an organism, preferably a plant, that contains increased levels of ascorbic acid; (6) use of L-galactose dehydrogenase antisense DNA to down-regulate the **enzyme**; and (7) a herbicidal compn. comprising a compound that inhibits L-galactose dehydrogenase.

REFERENCE COUNT: 3 THERE ARE THREE REFERENCES AVAILABLE FOR THIS RECORD. ADDITIONAL REFERENCES AVAILABLE IN THE RE FORMAT

119 ANSWER 11 OF 15 HOAPLUS COPYRIGHTED BY

ACCESSION NUMBER: 1998:246371

DOCUMENT NUMBER: 129:64817

TITLE: Trehalose-6-phosphate

phosphatases in Arabidopsis thaliana:

identification and functional complementation of the

yeast tps2 mutant

AUTHOR(S): Vogel, Guido; Boller, Thomas; Ecker, Roger A.; Muller, Joachim;

Boller, Thomas; Ecker, Roger A.; Muller, Joachim;

CORPORATE SOURCE: Botanisches Institut, Universitat Basel, Basel,

CH-4056, Switz.

SOURCE: Plant Science, 1993, 41: 118-121
 CITEN: 118:230685
 PUBLISHER: Blackwell Science Ltd
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB It is currently thought that most higher plants lack the capacity to synthesise trehalose, a common disaccharide of **bacteria**, **fungi** and invertebrates that appears to play a major role in desiccation tolerance. Attempts have been made to render plants more drought-resistant by the expression of microbial genes for trehalose synthesis. It is demonstrated here that *Arabidopsis thaliana* itself possesses genes for at least one of the **enzymes** required for trehalose synthesis, **trehalose-6-phosphate phosphatase**. The yeast *tps2* mutant, which lacks this **enzyme**, is heat-sensitive, and *Arabidopsis* cDNA able to complement this effect has been **screened** for. One of the yeast transformants that grew at 35.6°C was also able to produce trehalose. All of these expressed the *Arabidopsis* cDNA, either AtTPPA or AtTPPB, which are transcribed from the 3-terminal part of the yeast *TPS2* gene and other microbial **trehalose-6-phosphate phosphatases**. Yeast *tps2* strains expressing AtTPPA or AtTPPB contained **trehalose 6-phosphate phosphatase** activity that was measured both in vivo and in vitro. The **enzyme** phosphorylated **trehalose-6-phosphate** but not glucose-6-phosphate or sucrose-6-phosphate. Both genes are expressed in flowers and young developing tissue of *Arabidopsis*. The finding of these novel *Arabidopsis* genes for **trehalose-6-phosphate phosphatase** strongly indicates that a pathway for trehalose biosynthesis exists in plants.

IT 9025-72-3, Trehalose-6-phosphate

phosphatase

RI: PRP (Properties)

trehalose-6-phosphate

phosphatases from *Arabidopsis thaliana*: identification by functional complementation of yeast *tps2* mutant

118 ANSWER 12 OF 16 HCAPLUS COPYRIGHTED WORK

ACCESSION NUMBER: 1993:230685 HCAPLUS

DOCUMENT NUMBER: 118:230685

TITLE: Effect of endosymbiotic **bacteria** on mitochondrial enzyme activities in the weevil *Sitophilus oryzae* (Coleoptera:Curculionidae)

AUTHOR(S): Heddi, A.; Lefebvre, J.; Nardon, P.

CORPORATE SOURCE: Lab. Biol. Appl., Univ. Lyon, Villeurbanne, 69621, Fr.

SOURCE: Insect Biochem. Mol. Biol. Molecular Biology (1993), 23(3), 403-11

CODEN: IEMBE5; 1993: 403-1148

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Various mitochondrial enzymic activities were investigated in symbiotic and aposymbiotic larvae and adults of *Sitophilus oryzae*. Six **enzymes** were **assayed**: cytochrome c oxidase, succinate cytochrome c reductase, **glycerol 3-phosphate** cytochrome c reductase, isocitrate dehydrogenase, pyruvate dehydrogenase, and α -ketoglutarate dehydrogenase. The specific activities of all these **enzymes** were higher in ribwortia-inoculated from symbiotic larvae than those isolated from aposymbiotic larvae. In adults, the differences in enzymic activities between symbiotic and aposymbiotic

JOURNAL: Plant Journal, 1994, 12:3, 673-685
 ISSN: PLUM; ISSN: 1941-7411
 PUBLISHER: Blackwell Science Ltd.
 JOURNAL TITLE: Journal
 LANG: Ab: English

AB: It is currently thought that most flowering plants lack the capacity to synthesize trehalose, a common disaccharide of **bacteria**, **fungi** and invertebrates that appears to play a major role in desiccation tolerance. Attempts have therefore been made to render plants more drought-resistant by the expression of microbial genes for trehalose synthesis. It is demonstrated here that *Arabidopsis thaliana* itself possesses genes for at least one of the **enzymes** required for trehalose synthesis, **trehalose-6-phosphate phosphatase**. The yeast *tps2* mutant, which lacks this **enzyme**, is heat-sensitive, and *Arabidopsis* cDNA able to complement this defect has been **screened** for. Half of the yeast transformants that grew at 37°C grew at 42°C and also produced trehalose. All of these expressed one of two *Arabidopsis* cDNA, either AtT6A or AtT6B, which are both homologous to the C-terminal part of the yeast *TPS2* gene and other microbial **trehalose-6-phosphate phosphatases**. Yeast *tps2* mutants expressing AtT6A or AtT6B contained **trehalose-6-phosphate phosphatase** activity that could be measured both *in vivo* and *in vitro*. The **enzyme** dephosphorylated **trehalose-6-phosphate** but not glucose-6-phosphate or sucrose-6-phosphate. Both genes are expressed in flowers and young developing tissue of *Arabidopsis*. The finding of these novel *Arabidopsis* genes for **trehalose-6-phosphate phosphatase** strongly indicates that a pathway for trehalose biosynthesis exists in plants.

ID: 9025-72-3, Trehalose-6-phosphate phosphatase
 RL: PRP (Properties)
 trehalose-6-phosphate phosphatases from *Arabidopsis thaliana*: identification by functional complementation of yeast *tps2* mutant

11- ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2013 ACS

ACCESSION NUMBER: 1993:230685 HCAPLUS
 DOCUMENT NUMBER: 118:230685
 TITLE: Effect of endocytobiotic **bacteria** on mitochondrial enzymic activities in the weevil *Sitophilus oryzae* (Coleoptera:Curculionidae).
 AUTHOR(S): Heddi, A.; Lefebvre, F.; Nardon, R.
 ORIGINATE SOURCE: Lab. Biol. Appl., INRA Lyon, Villeurbanne, 69621, Fr.
 SOURCE: Insect Biochemistry and Molecular Biology (1993), 23(3), 403-11
 CODEN: IEMBES; ISSN: 0965-1746
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB: Various mitochondrial enzymic activities were investigated in symbiotic and aposymbiotic larvae and adults of *Sitophilus oryzae*. Six **enzymes** were **assayed**: cytochrome c oxidase, succinate cytochrome c reductase, **glycerol 3-phosphate** cytochrome c reductase, isocitrate dehydrogenase, pyruvate dehydrogenase, and alpha-ketoglutarate dehydrogenase. The specific activities of all these **enzymes** were higher in mitochondria isolated from symbiotic larvae than those isolated from aposymbiotic larvae. In adults, the differences in enzymic activities between symbiotic and aposymbiotic

insects were identified. *Salmonella*-*Escherichia coli* enzyme activity was similar in the 2 strains, and pyruvate kinase activity was higher in the *Escherichia coli* strain. From the results of these and other studies between *Salmonella* and *Escherichia coli* **insects** the authors concluded that the presence of **bacteria** in the gut of the highest enzyme activities in *Escherichia coli*. It is suggested that some of the bacterial metabolites could be implicated. These *Escherichia coli* were also **tested** on *Salmonella* **bacteria** isolated from larval **bacteriome**. No activity was seen.

11. ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1992:104396 HCAPLUS
DOCUMENT NUMBER: 116:104396
TITLE: Target gene-complemented microorganisms for identification of **antiparasite** drugs
AUTHOR: Klein, Ronald D.; Greary, Timothy J.
PATENT ASSIGNEE: Upjohn Co., USA
JOURN: EST Int. Appl., 1991.
CODEN: EIXXDE
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY AND NEW: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9117260	A1	19911119	WO 1991-US2767	19911428
W: AU, BR, BE, BR, CA, FI, HO, JP, KR, LX, NO, NG, NW, N, PL, PG, SL, ST, US				
BW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, GR, IT, LG, ML, MR, NL, SE, SN, TD, TG				
US 5179148	A	19920107	US 1990-517633	19900802
AU 9179750	A1	19911127	AU 1991-79750	19910425
BRIEF APPLN. INFO.:			US 1990-517633	19901102
			WO 1991-US2767	19911428

AB A method for identifying **antiparasitic** drugs comprises exposing **parasite** gene-complemented microorganisms to the **test** compd. and detg. microbial viability. An *Escherichia coli* mutant deficient in both phosphofructokinase (PFK) **enzymes** was used to clone the PFK cDNA of *Haemonchus contortus* by complementation. The cDNA was sequenced.

12. ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1988:90393 HCAPLUS
DOCUMENT NUMBER: 106:90393
TITLE: A sensitive and efficient isoenzyme technique for small arthropods and other invertebrates
AUTHOR: Basteal, Simon; Houshy, Ian A.
JOURN DATE SOURCE: Res. Sch. Biol. Sci., Aust. Natl. Univ., Canberra, 2601, Australia
JOURN: Bulletin of Entomological Research, 1987, 77, 3, 407-15
CODEN: BEEA2; ISSN: 0007-4888
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An electrophoretic method for the study of **enzyme** variation, which uses cellulose acetate sheets with an agar overlay for staining, the use of a very good general purpose buffer (citric-aminopropylamine), and the use of sodium arizonate as a **bactericide** to allow

and their storage in membranes, as solids, are described. Tests are reported of the technique on *Tetrahymena*, *Leishmania*, and several species of *Crithidia*. The technique offers sensitivity equal to or greater than starch or polyacrylamide gel electrophoresis and is applicable to very small problems, allowing either the testing of single individuals for large amounts of **enzymes** or the testing of lower **enzymes** over different concentrations of substrates. The technique is efficient with respect to time and materials, and simpler than conventional methods.

11 9075-65-4, Glycerol 3-phosphate

dehydrogenase

Michaelis-Menten study

isoenzymes, detection of, by cellulose acetate electrophoresis

112 ANSWER IS IF 18 READLINE COPYRIGHT 1975 ACN

ANALYST NUMBER: 1999:1446- READLINE

DOCUMENT NUMBER: 11114460

11115: Effects of some antitumor agents on growth and glycolytic **enzymes** of the flagellate *Crithidia*

AUTHOR: Baschi, Cyrus J.; Classic, Edward L.; Koren, Lois E.
CORPORATE SOURCE: Haskins Lab., New York, NY, USA

JOURN: Journal of Bacteriology (1969), 99:1, 23-8
CODEN: JOURBA; ISSN: 0021-9196

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Some antitumor agents known to specifically inhibit certain tumor cell **enzymes** were examd. for activity against glycolytic **enzymes** and for growth of the insect trypanosomatid, *C. fasciculata*. The cytoplasmic **enzymes** hexokinase, .alpha.-glycerophosphate dehydrogenase, malic dehydrogenase, and glucose-6-phosphate dehydrogenase were tested. Agaricic acid [2-hydroxy-1,2,3-naphaderanetricarboxylic acid] was highly inhibitory (50-100%) to malic and .alpha.-glycerophosphate dehydrogenases at approx. 10⁻⁶M; 2-(p-hydroxyphenyl)-2-phenylpropane (2 .times. 10⁻⁴M) and 5,6-dichloro-2-benzoxazolinone (5 .times. 10⁻⁴M) were less effective (50% inhibition) against them. The antiprotozoal agents primaquine (4 .times. 10⁻⁴M) and Melarsoprol (8 .times. 10⁻⁴M) were 30-40% inhibitory. Agaricic acid, 2-(p-hydroxyphenyl)-2-phenylpropane, and 5,6-dichloro-2-benzoxazolinone inhibited growth of *Crithidia* at less than 10⁻⁴M. Eight other test compds. from the Cancer Chemotherapy National Service Center (CONSC) were not toxic to cell growth, although two (4-biphenylcarboxylic acid and 1-(p-chlorobenzyl)-2-ethyl-5-methylindole-3-acetic acid) inhibited *Crithidia* .alpha.-glycerophosphate dehydrogenase below 1M. All of the compds. used specifically inhibited cancer cell .alpha.-glycerophosphate dehydrogenase. The corresponding **enzyme** in pathogenic African trypanosomes is important in their terminal respiration. *C. fasciculata* may be useful in preliminary evaluation of chemotherapeutic agents as potential trypanocides.

11 9075-65-4, Glycerol phosphate dehydrogenase

In *Crithidia fasciculata*, neoplasm inhibitor effect on